

AMENDMENTS TO THE SPECIFICATION:

Please amend the caption on page 1, line 6, as follows:

BACKGROUND

1. FIELD OF THE INVENTION

Please amend the caption on page 1, line 20, as follows:

BACKGROUND OF THE INVENTION2. RELATED ART AND OTHER

CONSIDERATIONS

Please amend the caption on page 2, line 32, as follows:

OBJECT OF THE INVENTIONBRIEF SUMMARY

Please amend the paragraph beginning at page 2, line 34, and continuing to page 3, line 8, as follows:

The ~~object of the present invention is to~~technology provides for solutions to overcome the above named problems concerning transmission capacities and transmission rates. In particular the present ~~invention should~~technology allows communications within different communications environments or in a single communications environment which are based on different standards in a common frequency range, preferably avoiding the above named problem of radio signal interferences and drawbacks resulting there from. In greater detail, the present ~~invention should~~technology allows communications of a TDMA based communications environment (e.g. GSM/GPRS communications environment) to be accomplished in the same frequency range used by a W-CDMA based communications environment (e.g. UMTS) and communications based on FDD in a communications environment to be performed in the same frequency range used for communications based on TDD in the same communications environment.

Please delete the caption on page 3, line 10, as follows:

SHORT DESCRIPTION OF THE INVENTION

Please amend the paragraph beginning at page 3, line 12, and continuing to page 3, line 21, as follows:

To achieve the above object, ~~(The present invention teaches technology comprises~~ a method for operating a first communications environment, wherein communications resources for communications according to a first communications standard are used for communications according to a second communications standard and wherein the use of the first communications resources for communications according to the first communications standard is controlled in dependence of communications to be performed according to the second communications standard. Here, ~~(The first~~ communications environment is controlled to provide at least some of its communications capacity for communications according to the second communications standard.

Please amend the paragraphs beginning at page 4, line 27, and continuing to page 4, line 36, as follows:

According to a preferred example embodiment, the method ~~according to the present invention~~ is carried out with respect to a geographical area for which both communications according to the first communications standard and communications according to the second communications standard are provided. Examples for such a geographical area include broadcast cells of communications environments.

Parameters for carrying out the adaptive control method ~~according to the present invention~~ include at least one of a current communications demand, expected communications and available communications resources for communications each thereof according to the first and/or second communications standard(s).

Please amend the paragraph beginning at page 5, line 18, and continuing to page 5, line 22, as follows:

For implementing the adaptive mixed communications control according to the present invention, the first and/or second communications environment(s) can receive information indicating the above control parameter(s). This allows controlling of communications capacities of communications environments for mixed communications by the respective communications environment on its own.

Please amend the paragraph beginning at page 6, line 1, and continuing to page 6, line 3, as follows:

Further, the present invention technology provides a communications environment, user equipment, radio base stations and computer program products as defined in the claims.

Please amend the paragraphs beginning at page 7, line 5, and continuing to page 7, line 12, as follows:

Fig. 12 illustrates single-mode TDMA and W-CDMA radio base stations according to the present invention an example embodiment,

Fig. 13 illustrates a dual-mode radio base station according to the present technology invention,

Fig. 14 illustrates a variable duplex distance for a FDD/TDD spectrum sharing according to an example embodiment the present invention,

Please amend the paragraph beginning at page 7, line 16, and continuing to page 7, line 17, as follows:

Fig. 16 illustrates a TDD frame structure for TDD/FDD spectrum sharing according to an example embodiment the present invention,

Please amend the paragraphs beginning at page 7, line 25, and continuing to page 8, line 12, as follows:

Fig. 19 illustrates a deployment example for the adaptive control of mixed communications according to an example embodiment of the present invention,

Fig. 20 illustrates a flowchart for the adaptive control of mixed communications according to an example embodiment of the present invention,

Fig. 21 illustrates implementations of the adaptive control of mixed communications according to an example embodiment of the present invention,

Fig. 22 illustrates a mixed communications operation selection according to an example embodiment of the present invention,

Fig. 23 illustrates a graph showing parameters for the adaptive control of mixed communications according to an example embodiment and resulting mixed communications modes,

Fig. 24 illustrates a further graph showing parameters for the adaptive control of mixed communications according to an example embodiment and resulting mixed communications modes, and

Fig. 25 to 28 illustrate different configurations for mapping the TDMA frame structure shown in fig. 3 and the W-CDMA frame structure shown in fig. 5 and 6 for the adaptive control of mixed communications according to example embodiments.

Please amend the caption on page 8, line 14, as follows:

DETAILED DESCRIPTION Description of preferred embodiments

Please amend the paragraph beginning at page , line , and continuing to page ?, line ?, as follows:

The following description is given with respect to TDMA and W-CDMA communications environments. Examples for such communications environments include GSM/GPRS communications environments and UMTS communications environments.

The principles and embodiments of the present invention given described herein with respect to these specific communications environments also apply for other scenarios

where different communications environments, i.e. communications environments according to different standards, or a different single communications environment share a same frequency spectrum or frequency band for its communications. In greater detail, the present invention will ~~will~~ technology allows for a co-existence and integral cooperation of different communications environments and of different communications standards in single communications environment.

Please amend the paragraphs beginning at page 12, line 1, and continuing to page 12, line 31, as follows:

A transmission gap can be located within a W-CDMA frame such that at least one slot of that W-CDMA frame is arranged before and after the transmission gap. Thus, transmission gaps of consecutive W-CDMA frames will be separated by at least one slot. Further, a transmission gap can be located within two consecutive W-CDMA frames such that the respective two W-CDMA frames are bridged. Thus, no W-CDMA slot will be arranged between the parts of ~~the~~ transmission gap of the two consecutive W-CDMA frames. In order to meet the maximal transmission gap length TGL of 7 slots per W-CDMA frame, here, in each of the W-CDMA frames bridged by a transmission gap, at least 8 slots must be used for data transmissions. These two methods are called single-frame method and double-frame method and will be described in greater detail below.

For the compressed mode, two options are defined for downlink communications, while only one compression mode is employed for uplink communications. Uplink communications according UMTS employ a slot structure as illustrated in fig. 4-5. The upper slot structure in fig. 4-5 designated by the term "data" forms consecutive uplink UMTS slots (two slots shown) which can be separated by transmission gaps TGs (one transmission gap TG shown) when operated for uplink compressed transmission. Normally, data slots are communicated via an associated physical channel such that for a compressed mode operation this physical channel is not used during transmission gaps between single data frames.

Associated to the respective slots for data, control slots are used which have the lower structure illustrated in fig. 4-5. For uplink communications, each control slot comprises pilot data Pilot, a transmit format combination indicator TFCI, a final block indicator FBI and transmit power control TPC data. The control slots form consecutive uplink UMTS slots (two control slots shown) which can be separated by transmission gaps TGs (one transmission gap TG shown) for uplink compressed transmission. Comparable to data slots control slots are transmitted via an associated physical channel. As a result, during transmission gaps with respect to control slots this physical channel is not utilized.

UMTS downlink communications utilize a different frame structure compared to uplink communications, as shown in fig. 2-6. A frame structure type A (see fig. 6(a)) uses slots with data data 1 (e.g. speech data or content data), transmit power control TPC data, a transmit format combination indicator TFCI, further data data 2 (e.g. speech or content data) and pilot data PL. For downlink compressed transmissions consecutive slots are separated by a transmission gap TG wherein pilot data PL of the last slot in the transmission gap TG is transmitted while transmission is turned off during the rest of the transmission gap TG. As a result, the pilot data PL of the last slot of the transmission gap TG precedes the first data of the subsequently transmitted slot.

Please amend the paragraph beginning at page 28, line 1, and continuing to page 28, line 7, as follows:

In general, the ~~invention-technology~~ can be implemented for any comparable interface of a communications environment, which can be accessed by units of another communications environment. For example, in case of communications environments, which include air interfaces between radio base stations, the use of one communications environment for communications of another communications environment can be performed for the communications interface between base stations. Then, modification can be limited to base stations if necessary at all.